



NODC's New Geoportal Server



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An Overview of NODC's Geoportal Server



Highlights from NODC's Geoportal Implementations



- Multiple service links
- Temporal search
- Browse by keywords
- NODC's ocean locator
- NODC's ocean basemap
- Demo

Geoportal Server-Web interface



Search

Search metadata content, e.g. title:SST; use "AND" for multiple keywords, e.g. water AND temperature; use "" to search for an exact phrase, e.g. "water temperature" (Search tips!)

Additional Options

WHEN

☒ Dates overlap range
 ☐ Dates within range

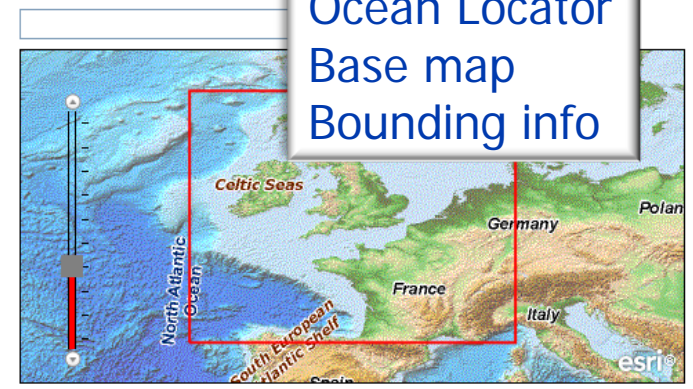
From: (yyyyymmdd)

To: (yyyyymmdd)

WHERE

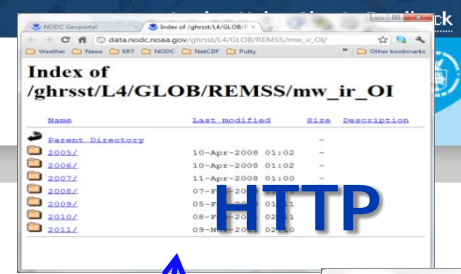
Zoom the map to desired area by double-clicking on the location, or shift-click-dragging a bounding box, and choose "intersecting" or "fully within"

☐ Anywhere
 ☐ Intersecting



Free Text,
Temporal,
Spatial,
Search

Ocean Locator
Base map
Bounding info



HTTP

Results 1-1 of 1 record(s)

☒ Expand results
 [Zoom To Results](#)
[Zoom To Search](#)

Analysed L4 foundation sea surface temperature of North-Western European shelves data

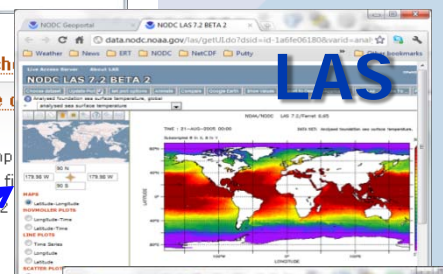
The ODYSSEA North-West Europe Shelves Sea Surface Temperature (SST) is a daily cloud-free foundation sea surface temperature at 2 km resolution (0.02°). It is generated by me...

[Website Details](#)
[Metadata](#)
[Download](#)
[LAS](#)
[TDS](#)

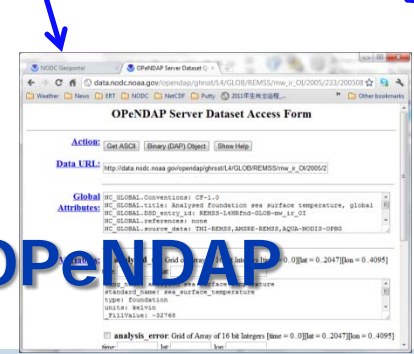
[OPeNDAP](#)
[FTP](#)
[Zoom To](#)

See results through REST

API: [GEORSS](#) [ATOM](#) [HTML](#) [FRAGMENT](#) [KML](#) [JSON](#)



OPeNDAP



FTP



Geoportal Server Discover via Browse

NODC Geoportal - Mozilla Firefox

data.nodc.noaa.gov/geoportal/catalog/search/browse/browse.page

Dataexamples NODC_Data ESRIGeoportal NODCGeoportalAdmin DataTools ERT TDS other perl Sea names CF javafamilies ArcGISserver Team

Login Help About Feedback

NOAA NATIONAL OCEANOGRAPHIC DATA CENTER (NODC)
UNITED STATES DEPARTMENT OF COMMERCE

NODC HOME SEARCH **BROWSE** SEARCH TIPS

Browse

Select a category below.

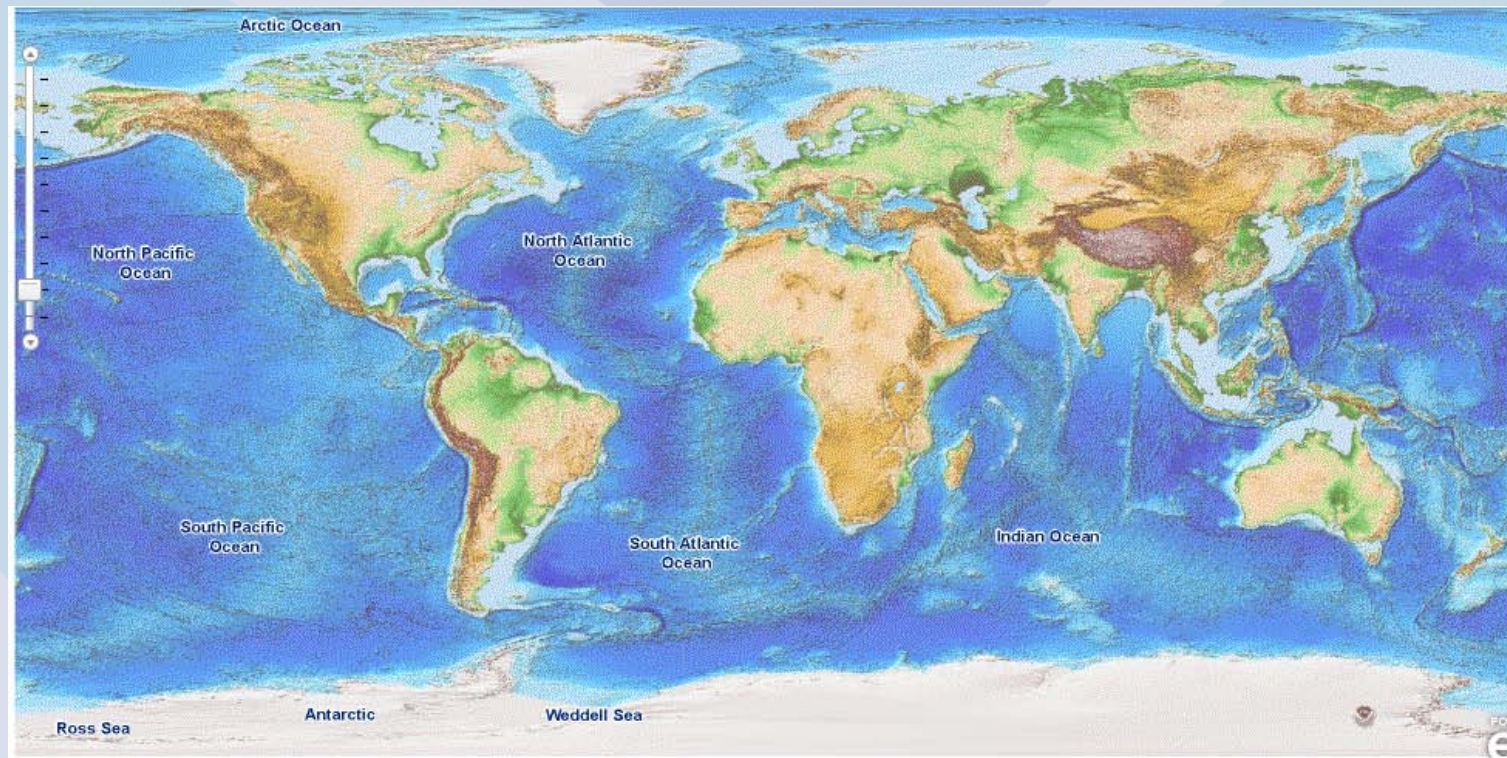
- People (Data submitters)
- Platforms
- Projects
- Institutions
- Sea names
- Data types
- Instruments
- Observations

Select one of the items in the tree to view a specific list of resources.

Browse tree provides another option of data Discovery and access with a further data Filter function

NODC Ocean Basemap

The original data layers include NGDC's EOTOP01 (NGDC), NODC's Sea area and National Marine Sanctuaries map (VLIMAR and NODC), Large Marine Ecosystems map (NOAA LME), Global countries, states/provinces, and cities polygons (ESRI 2004), Marine Eco-regions of the World, the Exclusive Economic Zone (EEZ) boundaries (Conservation International). <http://data.nodc.noaa.gov/arcgis/rest/services/basemap8/MapServer?f=jsapi>





NODC Ocean Locator

The original data layers include NODC's Sea area and National Marine Sanctuaries map (VLIMAR and NODC), Coral Reef location map (NOAA CoRIS Team, the original GIS map was achieved from ReefBase), Large Marine Ecosystems map (NOAA LME), Global countries, states/provinces, and cities polygons (ESRI 2004), Marine Eco-regions of the World (WWF MEOW), the Exclusive Economic Zone (EEZ) boundaries (Conservation International). The ocean locator is updated whenever a new sea area location is defined in NODC's Ocean Archive System or new data layers are requested by the users.

Data.nodc.noaa.gov/geoportal

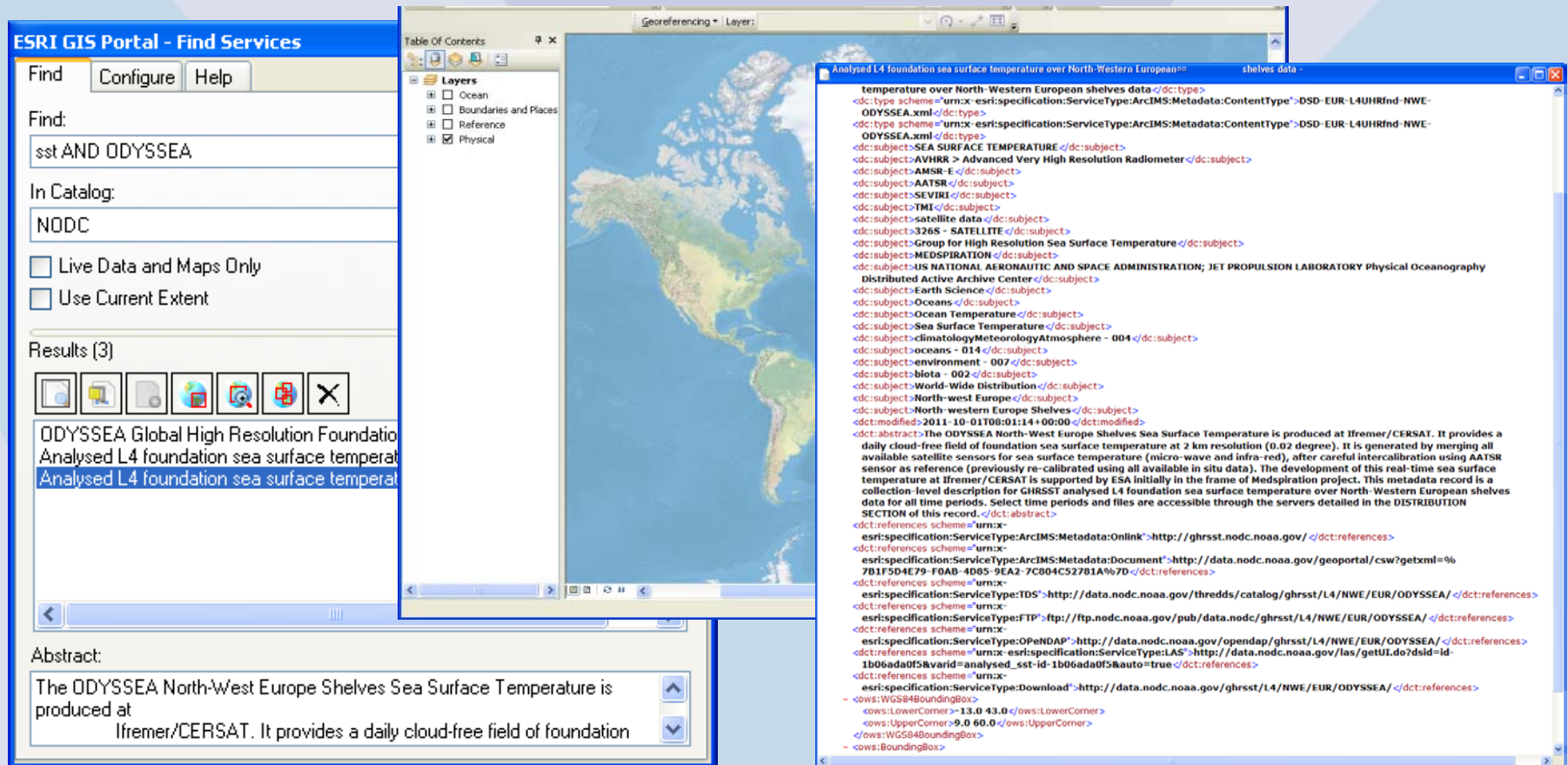
☒ Anywhere ☐ Intersecting ☐ Fully within



How NODC's Geoportal Server Enables Machine to Machine Search Capability and Brings all Together

Machine to Machine - via CS/W

Example: A Search from Desktop-Arcmap>CSWclient returns the location of the data on the map and A brief metadata file with selected metadata fields



ESRI GIS Portal - Find Services

Find:

In Catalog:

☐ Live Data and Maps Only
☐ Use Current Extent

Results (3)

ODYSSEA Global High Resolution Foundation
Analysed L4 foundation sea surface temperat
Analysed L4 foundation sea surface temperat

Abstract:

The ODYSSEA North-West Europe Shelves Sea Surface Temperature is produced at Ifremer/CERSAT. It provides a daily cloud-free field of foundation

Analysed L4 foundation sea surface temperature over North-Western European shelves data

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<dc:document xmlns:dc="http://purl.org/dc/terms/">
  <dc:title>temperature over North-Western European shelves data</dc:title>
  <dc:subject>ODYSSEA.xml</dc:subject>
  <dc:subject>SEA SURFACE TEMPERATURE</dc:subject>
  <dc:subject>AMSR-E</dc:subject>
  <dc:subject>AATSR</dc:subject>
  <dc:subject>SEVIRI</dc:subject>
  <dc:subject>TMI</dc:subject>
  <dc:subject>satellite data</dc:subject>
  <dc:subject>326S - SATELLITE</dc:subject>
  <dc:subject>Group for High Resolution Sea Surface Temperature</dc:subject>
  <dc:subject>MEDSPIRATION</dc:subject>
  <dc:subject>US NATIONAL AERONAUTIC AND SPACE ADMINISTRATION; JET PROPULSION LABORATORY Physical Oceanography Distributed Active Archive Center</dc:subject>
  <dc:subject>Earth Science</dc:subject>
  <dc:subject>Oceans</dc:subject>
  <dc:subject>Ocean Temperature</dc:subject>
  <dc:subject>Sea Surface Temperature</dc:subject>
  <dc:subject>climatologyMeteorologyAtmosphere - 004</dc:subject>
  <dc:subject>oceans - 014</dc:subject>
  <dc:subject>environment - 007</dc:subject>
  <dc:subject>biota - 002</dc:subject>
  <dc:subject>World-Wide Distribution</dc:subject>
  <dc:subject>North-west Europe</dc:subject>
  <dc:subject>North-western Europe Shelves</dc:subject>
  <dc:modified>2011-10-01T08:01:14+00:00</dc:modified>
  <dc:abstract>The ODYSSEA North-West Europe Shelves Sea Surface Temperature is produced at Ifremer/CERSAT. It provides a daily cloud-free field of foundation sea surface temperature at 2 km resolution (0.02 degree). It is generated by merging all available satellite sensors for sea surface temperature (micro-wave and infra-red), after careful intercalibration using AATSR sensor as reference (previously re-calibrated using all available in situ data). The development of this real-time sea surface temperature at Ifremer/CERSAT is supported by ESA initially in the frame of Medspiration project. This metadata record is a collection-level description for GHRSSST analysed L4 foundation sea surface temperature over North-Western European shelves data for all time periods. Select time periods and files are accessible through the servers detailed in the DISTRIBUTION SECTION of this record.</dc:abstract>
  <dc:references scheme="urn:x-esri:specification:ServiceType:ArcIMS:Metadata:Online">http://ghrsst.nodc.noaa.gov/</dc:references>
  <dc:references scheme="urn:x-esri:specification:ServiceType:ArcIMS:Metadata:Document">http://data.nodc.noaa.gov/geoportal/csw?getxml=%7B71F5D4E79-F0AB-4D85-9EA2-7C804C52781A%7D</dc:references>
  <dc:references scheme="urn:x-esri:specification:ServiceType:TDS">http://data.nodc.noaa.gov/thredds/catalog/ghrsst/L4/NWE/EUR/ODYSSEA/</dc:references>
  <dc:references scheme="urn:x-esri:specification:ServiceType:FTP">ftp://ftp.nodc.noaa.gov/pub/data.nodc/ghrsst/L4/NWE/EUR/ODYSSEA/</dc:references>
  <dc:references scheme="urn:x-esri:specification:ServiceType:OPeNDAP">http://data.nodc.noaa.gov/opendap/ghrsst/L4/NWE/EUR/ODYSSEA/</dc:references>
  <dc:references scheme="urn:x-esri:specification:ServiceType:LAS">http://data.nodc.noaa.gov/las/getUL.do?dsid=id-1b06ada0f5&varid=analysed_sst-id-1b06ada0f5&auto=true</dc:references>
  <dc:references scheme="urn:x-esri:specification:ServiceType:Download">http://data.nodc.noaa.gov/ghrsst/L4/NWE/EUR/ODYSSEA/</dc:references>
  <ows:BoundingBox>
    <ows:LowerCorner>-13.0 43.0</ows:LowerCorner>
    <ows:UpperCorner>9.0 60.0</ows:UpperCorner>
  </ows:BoundingBox>
</dc:document>
```



Machine to Machine - OpenSearch

The screenshot displays a web browser window with the OpenSearch client interface. The top navigation bar includes links for Home, About, Product Search, Ad Technologies, Visual Search, and Jobs (we're hiring). A search bar is prominently featured with the text "OpenSearch" and a "Search" button. Below the search bar, a list of data examples is visible, including "Dataexamples", "NODC_Data", "ESRIGeoportal", "NODCGeoportalAdmin", "DataTools", "ERT", "TDS", "perl", "CF", "javafamilies", "ArcGISserver", "idl", "SRU", "ESIP", and "UAF".

The main content area shows a search result for "Geoportal GeoRSS". The result includes a list of sea surface temperature (SST) data sets, each with a brief description and links for "Website", "Details", "Metadata", "Download", "TDS", "OPeNDAP", and "FTP". The data sets listed are:

- MWIR optimum interpolated SST data sets
- Global 10km Analyzed SST data set
- TMI 25km gridded SST data sets
- AMSRE 25km gridded SST data sets
- TMI geolocated L2 orbital SST data sets
- MODIS Aqua L2P swath SST data sets
- MODIS Terra L2P swath SST data sets
- North Sea and Baltic Sea L4 SST data sets

Each data set entry provides a brief description of the data and its source, along with links to the website, details, metadata, download, TDS, OPeNDAP, and FTP.



Geoportal Server – REST URL

- [http://data.nodc.noaa.gov/geoportal/rest/find/document?searchText=+\(Temperature\)+\(sdate: \[1986 TO 1990\]\) + \(edate:\[1986 TO 1990\]\)&start=1&max=25&spatialRel=esriSpatialRelWithin&bbox=137.72,33.36,143.29,36.14&f=html](http://data.nodc.noaa.gov/geoportal/rest/find/document?searchText=+(Temperature)+(sdate:[1986 TO 1990])+(edate:[1986 TO 1990])&start=1&max=25&spatialRel=esriSpatialRelWithin&bbox=137.72,33.36,143.29,36.14&f=html)
- "Show me in HTML format the first 25 datasets with the keyword *temperature*, between 1986 and 1990, within the bounding box 137.72 E to 143.29 E and 33.36 N to 36.14 N"
- Want it in KML? Change the "html" to "kml".

Geoportal Server Components





Usability Test Results- Questions List

Query	Which part do you find difficult? 1. Free text; 2. Temporal search; 3.Spatial search; or any other comments
1. Water temperature, wave height data for Gulf of Mexico during the past 5 years	
2. Wind data from remote sensing for California coast	
3. Ocean current data for Chukchi Sea for a time period covering 2009 to present	
4. Station data from a NOAA cruise e.g. "Townsend Cromwell" from 1960s	
5. Can you find this data with the following information Place: Black Sea Institution: Woods Hole Oceanographic Institution (WHOI) Data collected: 2003	
6.Please define a search by yourself and provide a short description below: ☺	
Suggestions:	

The test queries were selected from real user requests to NODC. Normally when users could not figure out how to find the data, they send the requests to NODC's user services. The average time used for each test is between 15 to 45 minutes.



Usability Test Results- More About The Testers

32 out of 34 users provided their contact information; and 19 of them are willing to be in touch with us for future updates.

40% students

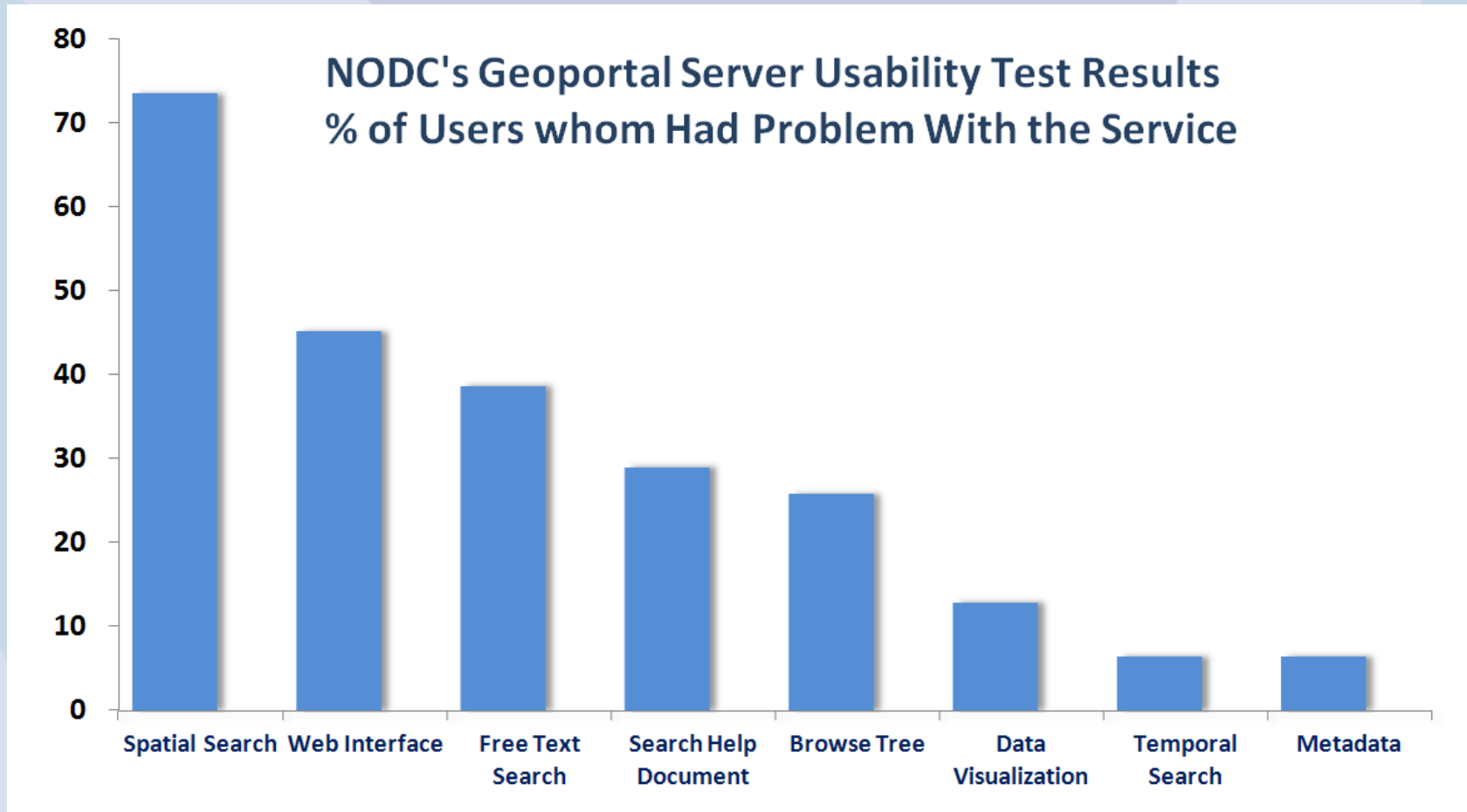
60% researcher/scientist

28% data management

Testers are from America, Asia, and Europe with good English or poor English skills



Usability Test Results





Future implementation plan

- Map locator: improve the map layout; make the locator work with automatic zoom
- Free text search: configure the search default syntax; add ontology service to Geoportal Server
- Web interface: distinguish between two ways of search; make the most popular REST APIs shown on top of the results list; others
- Data visualization: working with Archive Management and Technical Development teams achieve this goal
- ISO19115-2 metadata capability: on-going with ncISO (NGDC) metadata and ISO19115 metadata from the xsl (NCDDC) transformation



Acknowledgements

- Thank you to Christine White and her team at ESRI who continue to help us improve our Geoportal
- A big thank you to Jefferson Ogata, John Relph, Donald Collins, Andy Allegra, Kelly Logan, Matthew Austin



Thank You!